

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION**

RFID TRACKER LTD.**Plaintiff**

VS.

WAL-MART STORES INC.; THE GILLETE COMPANY; MICHELIN NORTH AMERICA, INC.; TARGET CORPORATION; and PFIZER HEALTH SOLUTIONS

Defendants

[illegible]

CASE NO. 6:06 CV 363
PATENT CASE

MEMORANDUM OPINION

This Memorandum Opinion construes the terms in United States Patent No. 6,967,563 (the “563 Patent”).

BACKGROUND

The '563 Patent, issued on November 22, 2005, discloses an inventory control system which includes radio frequency identification ("RFID") tags attached to inventory items, an interrogator/reader, and a computer. The interrogator/reader generates a radio frequency ("RF") field sufficient to activate every RFID tag within the field range. Once activated, the RFID tags, which contain anti-collision capabilities, communicate their unique code to the interrogator/reader. The interrogator/reader communicates the unique code to the computer. The computer, which includes a list comprising an identifier for each inventory item, the unique code for each RFID tag, and an item status for each inventory item, sets the item status to true or "present" for inventory items associated with received unique codes and sets the item status to false or "absent" for inventory items from which the computer does not receive unique codes.

RFID Tracker, Ltd. (“RFID Tracker”), assignee of the ‘563 Patent, claims Wal-Mart Stores, Inc., the Gillette Company, and Target Corporation (collectively, “Defendants”) infringe claims 1 and 15 of the ‘563 Patent.

APPLICABLE LAW

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In claim construction, courts examine the patent’s intrinsic evidence to define the patented invention’s scope. *See id.*; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting

Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficos N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* Also, the specification may resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be

indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition is entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

CLAIM TERMS

Inventory

Claims 1 and 15 contain the term "inventory." RFID Tracker contends this term does not require construction. Defendants claim "inventory" means "a predefined group of all controlled items located either inside or outside the range of a generated field." The dispute centers on whether the inventory requires "a predefined group of all controlled items." Defendants concede the '563 Patent allows items to be added to the inventory, but claim the computer software must know about these new items before the items enter the field such that the computer can properly set the item status's for the new items once they enter the field.

The ordinary meaning of "inventory" is not a static list of items but allows the number of inventory items to change as new items enter and old items exit. The '563 Patent does not depart from that ordinary meaning and does not limit "inventory" to "a predetermined group of all controlled items."

The claims employ the term "inventory" consistent with its ordinary meaning. Claims 1 and 15 require an item status set to a first state, such as true, for all items the interrogator/reader detects, and a second state for all items outside the range of the generated field. '563 Patent, col. 9:2–34, col. 10:55–col. 11:16. While the apparatus and method claims implicitly require a known set of RFID tags, the claim does not foreclose on the ability to modify the list to add entries for new RFID

tags or delete entries for RFID tags outside the range of the interrogator/reader that the computer determines will never return. *See Gillette Co. v. Energizer-Holdings, Inc.*, 405 F.3d 1367, 1371–72 (Fed. Cir. 2005) (stating the term “comprising” raises presumption that claim term is open-ended and “embraces technology that may add features to devices otherwise within the claim definition”). Thus, the claims do not require “a predetermined group of all controlled items.”

The specification does not limit “inventory” to “a predetermined group of all controlled items.” The specification allows the user to delete items once those items are outside the range of the RF field. ‘563 Patent, col. 2:39–43. While the specification discloses a fixed set of items within the inventory for each embodiment, one of ordinary skill in the art would understand the patent allows the purchase or sale golf clubs and cattle, disposal or purchase of medical supplies, and the addition or removal of children from daycare. *See id.* at Fig. 2, Fig. 3, Fig. 4, Fig. 5, col. 6:40–col. 8:67.

Thus, “inventory” allows the addition and deletion of items. A lay jury will understand the meaning of “inventory,” and the Court will not construe the term.

Interrogator / Reader

Claims 1 and 15 include the term “interrogator/reader.” RFID Tracker contends the term does not require construction. Defendants claim “an interrogator/reader includes a field generator and a receiver, but not a transmitter.” The parties dispute whether the interrogator/reader can contain a transmitter.

Claims 1 claims, in part, an “interrogator/reader” that includes a “field generator” and a “receiver.” *Id.* at col. 9:2–34. The claim uses the open-ended term “including,” which, similar to “comprising,” raises a presumption that the “interrogator/reader” is not limited to a “field generator” and a “receiver.” *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1284 (Fed. Cir. 2005)

(“As a patent law term of art, ‘includes’ means ‘comprising.’ Neither includes, nor comprising, forecloses additional elements that need not satisfy the stated claim limitations.”) (citations omitted); *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007) (noting the term “comprising” raises presumption that list of claim elements is non-exhaustive).

Claim 15 also uses the term “interrogator/reader,” which presumptively carries the same meaning as the “interrogator/reader” claimed in claim 1. *Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354, 1357 (Fed. Cir. 2006) (quoting *Fin Control Sys. Pty, Ltd. v. OAM Inc.*, 265 F.3d 1311, 1318 (Fed. Cir. 2001)); *see also Phillips*, 415 F.3d at 1314. Claim 15 claims a method that, in part, requires “generating a field . . . with an interrogator/reader,” which implicitly requires the interrogator/reader to have a field generator. ‘563 Patent, col. 10:55–col. 11:16. The claim also requires the step of “receiving periodic signals transmitted by each field activated apparatus associated with each item within the range of the field.” *Id.* While it is possible another structure could receive the periodic signals, it is not inconsistent with claim 1 and the specification that the interrogator/reader comprises a receiver that receives each field activated apparatus’s periodic signal. *Id.* at col. 9:2–34; *id.* at col. 3:18–41 (describing interrogator/reader as designed to generate an RF field and receive signals from the RFID tags). Thus, the Court will similarly construe “interrogator/reader” across claims.

The specification does not rebut the presumption that the interrogator/reader can include a transmitter. However, the specification does not strengthen the presumption, as it only describes the interrogator/reader’s receiving and field generation capabilities. ‘563 Patent, col. 3:23–25 (stating the system includes “an interrogator/reader designed to generate an RF field capable of activating the RFID’s”); *id.* at col. 3:32–38 (describing interrogator/reader capabilities as generating a field and receiving signals from RFID tags); *id.* at col. 4:36–40; *id.* at col. 5:11–14 (describing

interrogator/reader's receiver capability); *id.* at col. 7:7–23, col. 7:34–53, col. 8:13–18, col. 8:55–58 (describing interrogator/reader's field generation capability).

Statements in the prosecution history distinguish the applicant's invention from the prior art. The doctrine of prosecution disclaimer may narrow a claim term's ordinary meaning to one congruent with the scope surrendered in the prosecution history. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323–24 (Fed. Cir. 2003). Prosecution disclaimer may arise from an applicant's statements in an ancestor patent application if the ancestor application relates to the same subject matter as the claim language at issue. *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007). Generally, statements in a parent application will not disclaim subject matter claimed in the continuation application if the applications contain different claims. *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1078 (Fed. Cir. 2005).

The applicant must unequivocally disavow a certain claim term meaning for the doctrine to apply. *Omega Eng'g*, 334 F.3d at 1324. If the applicant unequivocally disavows claim scope, the doctrine of prosecution disclaimer applies even if the disclaimer results in a negative claim limitation. *See N. Am. Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335 (Fed. Cir. 2005) (affirming district court's construction of claim term “generally convex” to require “a majority of convex points along the inner wall and no concave points,” as the applicant's statements in prosecution history disclaimed coverage of an inner wall with any concavity). Courts will not apply the doctrine of prosecution disclaimer where the alleged claim scope disavowal is ambiguous. *See Omega Eng'g*, 334 F.3d at 1324.

During prosecution of the '563 Patent, the Examiner rejected the asserted claims as obvious under 35 U.S.C. § 103(a) in light of U.S. Patent No. 5,686,902 (the “Reis Patent”) and U.S. Pat. No. 5,539,394 (the “Cato Patent”). Both the Reis and Cato Patents disclose an interrogator that contains

a transmitter that communicates with the RFID tags. Reis Patent, Fig. 2, col. 6:39–61, col. 9:39–11:53; Cato Patent, Fig. 2, col. 3:31–64. The applicant understood the Reis and Cato Patents to utilize polling broadcasts and individual broadcasts to minimize collisions, both of which require the interrogator to transmit information to the RFID tags. Defendants’ Claim Construction Brief, Ex. 5D at 15; *id.* at Ex. 5F at 14.

The applicant stressed, in the Preliminary Statement sections in its responses to the 35 U.S.C. § 103(a) rejection, that the applicant’s invention only requires a field to poll the inventory and the interrogator/reader “is simply a receiver and field generator in its simplest form.” *Id.* at Ex. 5D at 11; *id.* at 5F at 11 (“The present invention does not require the interrogator/reader to do anything more than receive transmitted signals from tags within the activation zone of a field generated by the interrogator/reader.”); *id.* (stating “[t]he Reis and Cato Patents simply do not disclose, teach or suggest an inventory system where the interrogator/reader only received transmitted tag signals”); *see also id.* at Ex. 5F at 9 (“the interrogator/reader is nothing more than a receiver that receives a signal[], determines the unique code associated with the signal and forwards the code to the computer for updating the inventory list”). To specifically distinguished the present invention from the Reis and Cato Patents to transverse the 35 U.S.C. § 103(a) rejection, the applicant stated “[t]he [claimed] method . . . requires no polling and no transmission from the interrogator/reader, the field performs the polling, and the tags emit their uniquely modulated signals to the interrogator/reader when activated by the field . . .” *Id.* at Ex. 5D at 15. Additionally, the applicant stated “[a]ll anti-collision processing is handled at the tag level and not at the interrogator/reader level,” which is consistent with the applicant’s statements that distinguished the interrogator/readers disclosed in the Reis and Cato Patents on the basis that those interrogator/readers transmit data to the RFID tags. *Id.* at Ex. 5D at 11; *id.* at Ex. 5F at 9. In light of such distinctions, the applicant concluded the Reis

Patent, the Cato Patent, or the combination of the two patents, does not disclose, teach, or suggest such an simple inventory control system and as a result did not render obvious the applicant's claims. *Id.* at Ex. 5D at 15; *id.* at Ex. 5F at 14.

The applicant made similar statements in response to a similar rejection during prosecution of the '563 Patent's parent application, which also claims an "interrogator/reader."¹ The applicant stated "[t]he Reis [Patent] uses tag technology that requires the interrogator to send signals to the tags and receive signals from the tags in such a way as to minimize or eliminate simultaneous tag signal transmission." *Id.* at Ex. 4E at 12. With regard to the applicant's invention, "[i]n distinction, the present technology only requires that the interrogator generate a field and receive tag signals" *Id.* The applicant further stressed that this distinction was "fundamental." *Id.* That the Examiner did not rely on these statements, as the parent application never issued, does not negate the effect of the applicant's disclaimer. *See Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003).

The applicant's statements, in total, rebut the presumption that the interrogator/reader can include a transmitter and disclaim an interrogator/reader that includes a transmitter. Thus, "interrogator/reader" shall be construed to mean "an interrogator/reader that includes a field generator and a receiver, but not a transmitter."

¹ The parent application, similar to the unamended application that became the '563 Patent, claimed a method for inventory control comprising, in part, "polling each field activated apparatus via a field generated by an interrogator/reader and having a range sufficient to activate each field activated apparatus affixed to each item of the inventory." Defendants' Claim Construction Brief, Ex. 4E at 4; *id.* at Ex. 5A at 18. The applicant amended the claim during prosecution of the application that became the '563 Patent and replaced the "polling" step with the "generating a field" step. *Id.* at Ex. 5D at 8. The applicant stated many of the claim amendments "were house keeping to make the claims more readable and did not narrow or add limitations to the claims," and continued to distinguish the new claims on the same basis he previously distinguished the interrogator/reader claimed in the "polling" step. In particular, the applicant stated, with regard to the amended claims, "only a field is needed to poll the inventory and the interrogator/reader is simply a receiver and a field generator in its simplest form." *Id.* In total, the applicant distinguished the interrogator/reader claimed in the original and amended claims from the Reis and Cato Patents such that statements about the integrator/reader claimed in the "polling" step act to limit the interrogator/reader claimed in the "generating a field" step.

Unique Item Identifier / Unique Item Code / Item Status

Claims 1 and 15 claim a list implemented that comprises a “unique item identifier for each item in an [the] inventory,” “unique item code,” and “item status.” The parties agree “unique item identifier for each item in an [the] inventory” means “an identifier that identifies only one particular item.”

RFID Tracker contends “unique item code” means “a code that is associated with only one particular tag” and “item status” means “a data element which indicates whether a particular inventory item is inside or outside of the generated field.” Defendants claim “unique item code” means “a code (separate from the unique item identifier) that is associated with only one particular tag” and “item status” means “a data element (separate from the unique item identifier and the unique item code) which indicates whether a particular inventory item is inside or outside of the generated field.” The parties dispute whether the ‘563 Patent requires separate data elements for the “unique item identifier for each item in inventory,” the “unique item code,” and the “item status” or whether the a single data element can function as more than one list item.

The claims require a list implemented in a computer or data processing unit (“DPU”), the list comprising the three abovementioned list items. The claims list three separate data elements, and nothing in the claim indicates one of the data elements could serve as another data element.

Consistent with the claims, the specification discloses the list items as three separate data items. The specification discloses a DPU that includes a list that a unique item identifier, unique item code, and a status field, depicted as three separate structures within the DPU. ‘563 Patent, Fig. 1B, col. 5:56–col. 6:3. The DPU populates the list as follows. First, each RFID tag within the field generated by the interrogator/reader emits a signal modulated by its unique code. *Id.* at col. 3:25–26, col. 4:32–36, col. 5:27–30. The interrogator/reader subsequently receives the RFID tag’s unique

code and sends the code the DPU. *Id.* at col. 3:28–36, col. 3:42–49, col. 4:36–40. Thus, the unique code stored in the list within DPU is the same as the unique code stored in the RFID tag.

After the DPU receives an RFID tag's unique code, it modifies the unique identifier for the inventory item associated with the RFID tag's unique code. *Id.* at col. 3:28–32. The specification generically refers to the unique identifier as the “name” of the inventory item and lists the unique identifier separately from the other two list entries. *Id.* at col. 1:52–56 (referring to the unique item identifier as a “name”); *id.* at col. 3:42–49 (using terms “unique item,” “animal descriptor,” and “identifier” interchangeably).

Similarly, after the DPU receives an RFID tag's unique code, the DPU sets the items status entry to a present, or “TRUE,” condition. *Id.* at col. 3:35–41, col. 6:4–8. If an RFID tag moves out of the field, the interrogator/reader will no longer receive a signal from the tag and the DPU will set the item status associated with the RFID tag to an “absent,” or “FALSE,” condition. *Id.* at col. 3:38–41, col. 3:49–64, col. 6:4–25. The specification shows the item status as separate list item, and one cannot infer from the specification that an RFID tag's unique code could also be that tag's item status.

In total, the specification supports a construction of the list item that requires a separate data element for each item. Nothing in the specification suggests the unique item identifier could also serve as either the unique item code or the item status. *Id.* at Fig. 1B, col. 1:52–56, col. 3:28–32. Further, the specification does not teach that the mere existence of an RFID tag's unique code in the list indicates to the DPU that the RFID tag is within the field.

For the abovementioned reasons, the “unique item identifier for each item in an [the] inventory,” “unique item code,” and “item status” are separate data items. However, as the claims clearly list these items as separate elements, the disputed terms' constructions will not include the

parenthetical language. Thus, “unique item code” means “a code that is associated with only one particular tag” and “item status” means “a data element which indicates whether a particular inventory item is inside or outside of the generated field.”

Anti-Collision, Field Activated Apparatus

Claim 1 claims a “anti-collision, field activated apparatus,” and claim 15 claims a “field activated apparatus” that includes “anti-collision hardware and software.” The parties separately construe “anti-collision” and “field activated apparatus,” and their constructions raise two disputes: (1) whether the RFID tags’ anti-collision capabilities require the apparatuses to avoid all collisions among tag communications; and (2) whether activation of the field activated apparatuses requires the field activated apparatuses to transmit information to the interrogator/reader without waiting for any signal transmission from the interrogator/reader.

Anti-Collision

RFID Tracker contends “anti-collision” means “a field activated apparatus that operates to avoid collisions with signals transmitted by other field activated apparatuses.” Defendants claim “anti-collision” means “an RFID tag that prevents all collisions among tag communications.”

Courts presume a difference in meaning and scope when a patentee uses different phrases in separate claims. *Phillips*, 415 F.3d at 1314–15. Where a party seeks to limit an independent claim with language that appears in a dependant claim, the presumption is especially strong. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). However, the doctrine of claim differentiation is not a “hard and fast rule,” and courts cannot use the doctrine to broaden claims beyond their correct scope, determined in light of the intrinsic record and relevant extrinsic evidence. *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005); *see also Phillips*, 415 F.3d at 1312–15.

Claims 21 and 23 claim the invention in claims 1 and 15, respectively, “wherein each field activated apparatus transmits a periodic signal only when no other field activated apparatus transmits a periodic signal.” ‘563 Patent, col. 12:16–18, col. 12:22–24. Thus, the presumptive construction of “anti-collision” does not require the RFID tags’ anti-collision capabilities to eliminate all collisions between tag communications. Defendants contend statements in the specification and prosecution history rebut the presumption of claim differentiation and require the RFID tags’ anti-collision capabilities to avoid all collisions between tag communications.

The specification and prosecution history do not rebut the presumption that the anti-collision capability need not avoid all collisions between RFID tag communications. The specification states “[a]nti collision is generally performed by software and hardware of the tag which delays signal transmission where the hardware and software of tag sense transmission by another tag.” *Id.* at col. 5:7–10. This statement does not support Defendants’ construction, as multiple RFID tags could delay transmission for an identical amount of time while another tag transmits, which results in potential collisions.

The doctrine of prosecution disclaimer may narrow a claim term’s ordinary meaning to one congruent with the scope surrendered in the prosecution history. *Omega Eng’g*, 334 F.3d at 1323–24. The applicant must unequivocally disavow a certain claim term meaning for the doctrine to apply. *Id.* at 1324. Courts will not apply the doctrine of prosecution disclaimer where the alleged claim scope disavowal is ambiguous. *See id.*

Prosecution disclaimer may arise from an applicant’s statements in an ancestor patent application if the ancestor application relates to the same subject matter as the claim language at issue. *Ormco Corp.*, 498 F.3d at 1314. Generally, statements in a parent application will not disclaim subject matter claimed in the continuation application if the applications contain different

claims. *Invitrogen Corp.*, 429 F.3d at 1078 (Fed. Cir. 2005).

Similarly, an applicant's statements during continued prosecution of a related patent application are, in certain circumstances, relevant to understand the earlier patent's claim terms. *See Ventana Med. Sys., Inc. v. BioGenex Labs., Inc.*, 473 F.3d 1173, 1184 (Fed. Cir. 2006). Generally, statements in a child application will not disclaim subject matter claimed in the patent application if the applications contain different claims. *See id.*

Defendants claim the applicant's statements to the U.S. Patent & Trademark Office (PTO) during prosecution of the parent application, the application that became the '563 Patent, and the child patent application require the RFID tags' anti-collision capabilities to eliminate all collisions between RFID tag communications. When the applicant prosecuted the parent application, he stated "[t]he tags are designed to transmit their response in such a way as to eliminate collisions by broadcasting its response when other tags are silent." Defendants' Claim Construction Brief, Ex. 4C at 6. This statement, however, does not unambiguously state the tags' anti-collision capabilities eliminate all collisions.

During prosecution of the application that became the '563 Patent, the applicant stated "the [Reese and Cato Patents] simply do not disclose, teach or suggest an inventory system . . . where each tag only transmits when no other tag is transmitt[ing] as determined by hardware and software in the tag." Similar to the language in the specification, this statement does not foreclose the possibility that the hardware and software on multiple tags could simultaneously determine transmission by no other tag and subsequently transmit to the interrogator/reader at the same time, which would result in potential collisions.

During prosecution of the child application, the applicant attempted to transverse the Examiner's obviousness rejection under 35 U.S.C. § 103(a). The applicant distinguished his

invention from the Reis and Cato Patents on the basis that the RFID tags disclosed in the Reis and Cato Patents do not contain anti-collision capabilities. *Id.* at Ex. 6C at 9. While Defendants extract certain statements out of context, the applicant stressed that the Reis and Cato Patents require the interrogator/reader to perform the anti-collision functions. *Id.* at Ex. 6C at 9–10. The applicant thus concluded the RFID tags in the Reis and Cato Patents are not anti-collision, as “[t]he tags themselves do not have any anti-collision hardware or software and no anti-collision processing is performed by the tags.” *Id.* at Ex. 6C at 10.

To the extent it is proper to rely on these statements², the applicant did not distinguish the invention on the basis that the RFID tags in his invention are equipped with anti-collision capabilities that eliminate all collisions. In contrast, the applicant in these statements distinguished his invention on the basis that the Reis and Cato Patents disclose an interrogator/reader that performs the anti-collision function, while the applicant’s invention places the anti-collision capabilities on the RFID tags themselves.

In total, the statements do not rebut the presumption that the tags’ anti-collision capabilities need not eliminate all collisions between RFID tag communications. Thus, “anti-collision” means “functionality that operates to avoid collisions with signals transmitted by other field activated apparatuses.”

Field Activated Apparatus

RFID Tracker contends “field activated apparatus” means “an apparatus that is activated when it is within the range of the field generated by an interrogator/reader.” Defendants claim “an RFID tag that, whenever it is within the generated field, is prompted by the mere existence of the field to transmit a signal without waiting for any transmission of a signal from the

² The applicant responded to the Examiner’s non-final rejection on November 5, 2007 and the applicant most likely continues to prosecute the child application.

interrogator/reader.” Defendants further add “[t]he transmission of a signal by the RFID tag does not have to be immediate.”

The specification teaches an interrogator/reader that causes RFID tags to emit a signal modulated by their unique codes when the tags are within the range of the RF field generated by the interrogator/reader’s field generator. ‘563 Patent, col. 2:19–22 (“[A]n interrogator/reader causes each [RFID tag] to emit a periodic signal whenever the RFID [tag] is within the range of a radio frequency (RF) field generated by the interrogator/reader.”); *id.* at 3:32–35 (“When an item of the inventory is within the range of the field generated by the interrogator/reader, then the item’s RFID [tag] transmits a signal modulated by its code.”); *id.* at col. 3:66–4:4 (describing embodiment of invention where “the field generated by the interrogator will cause the tag to resume emitting a signal containing the unique code” once the tag reenters the field generator’s RF field). In light of the construction of “interrogator/reader,” only the interrogator/reader’s RF field can cause the RFID tag to transmit, as the interrogator/reader cannot transmit information to the tags.

The prosecution history supports the specification. As delineated above, the Examiner rejected claims 1 and 15 as obvious under 35 U.S.C. § 103(a) in light of the Reis and Cato Patents. The applicant, to transverse the rejection, distinguished his invention from the Reis and Cato Patents and stated “[t]he apparatus simply requires a field.” Defendants’ Claim Construction Brief, Ex. 5D at 15. The applicant further stated “[t]he method then requires no polling and no transmission from the interrogator/reader, the field performs the polling, and the tags emit their uniquely modulated signals to the interrogator/reader when activated by the field.” *Id.* Thus, the specification and prosecution history show the RF field prompts the RFID tags to transmit their unique codes to the interrogator/reader.

The concept of field activation, where the RF field prompts the RFID tags to transmit their

signal to the interrogator/reader, is more appropriate in the construction of interrogator/reader. As the interrogator/reader does not contain a transmitter, and cannot communicate with the RFID tags, there is no need to include Defendants' limitations in the construction of "field activated apparatus."³

Consistent with the foregoing, the Court adopts RFID Tracker's construction, as it is more consistent with the claim language. Thus, "field activated apparatus" means "an apparatus that is activated when it is within the range of the field generated by the interrogator/reader."

Field Having a Range Characterized by a Radius Centered at the Generator and a Field Strength Sufficient to Activate any Field Activated Apparatus Affixed to an Item Within the Range of the Generated Field

Claim 1 contains the term "a field having a range characterized by a radius centered at the generator and a field strength sufficient to activate any field activated apparatus affixed to an item within the range of the generated field." Claim 15 contains a similar term. RFID Tracker argues the term does not require construction. Defendants contend the term means "the field has a range defined by a generally spherical shape centered at the generator, and the field activates every RFID tag within the range." The parties' positions result in the following disputes: (1) whether the patent requires a generally spherical field shape; and (2) whether the field must activate every RFID tag within the field range.

Generally Spherical Field Shape

The claims require "a field having a range characterized by a radius centered at the generator." '563 Patent, col. 9:2–34, col. 10:55–col. 11:16. The intrinsic record does not discuss the shape of the RF field.

³ Defendants, at the *Markman* hearing, stated they "could live with" RFID Tracker's construction of "field activated apparatus" so long as it was clear that the interrogator/reader cannot transmit information to the RFID tags, that the interrogator/reader cannot poll the RFID tags in the prior art sense, and that the existence of the field prompts the RFID tags to broadcast their unique codes. *RFID Tracker Ltd. v. Wal-Mart Stores, Inc.*, Cause No. 6:06cv363, Transcript of *Markman* hearing held on 1/10/2008, 36–40. Having so construed "interrogator/reader" and having construed "field activated apparatus" to require the field to prompt the RFID tags to broadcast their unique codes, the Court adopts the parties' agreement.

The specification implies the RF field encompasses non-spherical shapes. In particular, it states one skilled in the art can adjust the tags' antenna arrays and the field generator's antenna size to adjust the size of the zone within which the field will activate the tags. '563 Patent, col. 4:61–col. 5:6; *see also id.* at col. 7:17–21 (“[T]he field strength needed to activate tags in a given volume will depend on the power of the RF field generated by the interrogator and the size of the receiving antenna associated with the tag.”). One of ordinary skill in the art, in light of this disclosure, would understand that alteration of the sizes and shapes of the field generator's antenna and the tags' antenna arrays could alter the antennas' radiation patterns such that the field range would not be spherical. *See id.* at col. 4:61–col. 5:6, col. 7:21–23. Further, one of ordinary skill in the art would understand that the RF field could be distorted such that the field shape would not be spherical. While Figs. 1A and 2 disclose spherical field shapes, these figures are simplified depictions of the actual field shape and generically depict a preferred embodiment.

The prosecution history does not limit the claim term to a single radius. During prosecution of the application that became the '563 Patent, the Examiner rejected claim 15 on the basis that the claim term “a field generated by an interrogator/reader and having a range sufficient to activate each field apparatus affixed to each item of the inventory” was indefinite under 35 U.S.C. § 112 ¶ 2. Defendants' Claim Construction Brief, Ex. 5C at 4. The Examiner reasoned “[i]t is unclear as to what range this limitation is referring, including indefinite or unlimited ranges. It is critical in this case, since decisions are made on whether to remove or add an item from the list based on this range.” *Id.* The applicant subsequently amended the claim and added the “a field having a range characterized by a radius centered at a field generator associated with an interrogator/reader and a field strength sufficient to activate any field activated apparatus affixed to any item of the inventory with the range.” *Id.* at Ex. 5F at 6.

It is clear from the “field strength sufficient to activate” language in the amendment that the amended claim limits the field range on the basis of the field strength, which depends on the power supplied to the interrogator/reader. ‘563 Patent, col. 6:40–49, col. 7:37–53, col. 7:61–col. 8:3, col. 8:38–46 (describing embodiments where a power source or supply powers the DPU and the interrogator/reader). The remainder of the amendment does not limit the field range to a generally spherical shape.

Thus, it would be improper to limit the field range to a generally spherical shape. For the abovementioned reasons, the field range need not be a generally spherical shape.

Activation of Every RFID Tag Within the Field Range

The claims require “a field strength sufficient to activate any field activated apparatus affixed to any [an] item within the range [of the generated field].” ‘563 Patent, col. 9:2–34, col. 10:55–col.

11:16. Claim 1 claims an inventory control apparatus where

the status of each item whose field activated apparatus has transmitted its signal to the receiver of the interrogator/reader is set to a first state indicating that the item is inside the range of the generated field, while the status of all other items is set to a second state indicating that the all other items are outside of the range of the generated field.

Id. at col. 9:2–34.

Defendants argue this step requires the field to activate all RFID tags within the field range and the claim therefore requires the field to activate all RFID tags within the field range.

The claim language does not require the field to activate every RFID tag within the field. The plain language of claims 1 and 15 merely require a field strength “sufficient to activate” the RFID tags; it does not require the field to actually activate the RFID tags. Further, the claim element Defendants rely on merely requires the item statuses of the RFID tags to be set to indicate the items are inside or outside the range of the generate field. However, nothing in the claims suggests the

device that sets the item statuses is free from error. The claim language does not foreclose the possibility that an item's status is erroneously set and the indicator is wrong.

The specification is consistent with the claim language. It discloses a field sufficient to activate RFID tags within the field range. *Id.* at col. 7:77-9, col. 7:43-47. Nothing in the specification requires the invention to activate all RFID tags within the field range. Thus, the term “a field strength sufficient to activate any field activated apparatus affixed to any [an] item within the range [of the generated field]” does not require the field to activate all RFID tags within the field's range.

The claim language is clear and understandable to lay jurors. In light of the foregoing, the Court will not construe the disputed term. *See Orion IP, LLC v. Staples, Inc.*, 406 F. Supp. 2d 717, 738 (E.D. Tex. 2005) (Davis, J.) (declining to construe claim terms and noting “although every word used in a claim has a meaning, not every word requires construction”).

Periodically Transmits / Periodic Signal(s)

Claims 1 and 15 contain the terms “periodically transmits,” “transmitting its periodic signal,” and “receiving period signals transmitted by each field activated apparatus.” RFID Tracker contends the terms require transmission of signals “at intervals.” Defendants contend “the RFID tag transmits a signal, including its unique item code, at set intervals (i.e., once every x seconds or a fraction thereof).”

The claim language equates “periodically transmits a signal” and “transmitting [a] periodic signal.” Claim 1 requires “each anti-collision, field activated apparatus affixed to an item of inventory within the range of the generated field [to] periodically transmit[] a signal only when . . . anti-collision hardware and software . . . determines that no other anti-collision, field activated apparatus is transmitting its periodic signal.” ‘563 Patent, col. 9:2-34. Claim 15 requires the step

of “receiving periodic signals transmitted by each anti-collision, field activated apparatus associated with each item within the range of the field only when anti-collision hardware and software . . . determines that no other anti-collision, field activated apparatus is transmitting its periodic signal.” *Id.* at col. 10:55–col. 11:16.

The specification also interchangeably employs the “periodically transmits a signal” and “transmitting [a] periodic signal[]” terms, as it states the RFID tags periodically transmit when they transmit a periodic signal.

Anti-collision is generally performed by software and hardware of the tag which delays signal transmission whenever the hardware and software of the tag senses transmission by another tag. Thus, the tags preferably send only periodic signals to the interrogator/reader in such a manner that the reader only receives signal transmission during a specified period of time. Thus, these tags generally transmit only a periodic signal. Because these tags generally transmit only periodically, the tracking software will be designed to expect a signal from a tag at some set interval.

Id. at col. 5:7–17.

One of ordinary skill in the art, after a review of the ‘563 Patent, would conclude that “periodically transmit a signal” and “transmit a periodic signal” speak to how often the RFID tags transmit signals and not the nature of the transmitted signals.

The ordinary meaning of “periodic” includes regular and irregular intervals. The claim language does not depart from this ordinary meaning. The “specified period of time” language in the specification does not require the RFID tags to transmit at set intervals, but allows the RFID tags to transmit at any time within the specified period of time. Although the specification teaches that the tracking software expects tag signals at some set interval, this statement is not sufficient to limit “periodic” to transmission or receipt of signals at set intervals. *See Phillips*, 415 F.3d at 1323.

Thus, “periodically transmits” means “transmits a signal at intervals,” “transmitting its periodic signal” means “transmitting a signal at intervals,” and “receiving periodic signals

transmitted by each field activated apparatus” means “receiving signals transmitted at intervals by each field activated apparatus.”

Only When Anti-Collision Hardware and Software on Each Anti-Collision, Field Activated Apparatus Determines that No Other Anti-Collision, Field Activated Apparatus is Transmitting its Periodic Signal

Claims 1 and 15 contain the term “only when anti-collision hardware and software of each anti-collision, field activated apparatus determines that no other anti-collision, field activated apparatus is transmitting its periodic signal.” RFID Tracker contends the term does not require construction. Defendants argue the term means “only when the hardware and software of a tag by itself, without receiving a transmission by an interrogator/reader, senses that no other tag is transmitting its periodic signal, so that all anti-collision processing is handled at the tag level, not at the interrogator/reader level.” The parties’ positions raise two issues: (1) whether the anti-collision hardware and software on the tag perform all of the anti-collision functions itself; and (2) whether, in the context of the ‘563 Patent, “determining” means “sensing.”

Hardware and software on the RFID tags perform all of the anti-collision processing. RFID Tracker’s counsel agreed⁴ at the *Markman* hearing that the RFID tags perform all anti-collision

⁴ The following transpired at the *Markman* hearing:

MR. WILLE: Your Honor, the main issue before the reply brief was whether or not the tag alone performs all anti-collision processing. There’s a slightly misleading statement in the Plaintiff’s opening brief that the tag handles anti-collision processing. But what that statement leaves open is whether the reader can participate at all in anti-collision processing. Now, I think if your Honor will go back and look at the transcript, I think Mr. Vowell’s [RFID Tracker’s counsel] already said three or four times today that all the anti-collision processing occurs at the tag.

THE COURT: I think he has. Let me ask him one more time. Is that correct?

MR. VOWELL: Yes. And to the extent --

THE COURT: Okay. So what’s your -- Excuse me. Do you want qualify it?

MR. VOWELL: No, your Honor.

RFID Tracker Ltd. v. Wal-Mart Stores, Inc., Cause No. 6:06cv363, Transcript of *Markman* hearing held on 1/10/2008, 45.

processing. Additionally, the construction of “interrogator/reader” forecloses any possibility the interrogator/reader can participate in the anti-collision process, as the interrogator/reader cannot transmit information to the RFID tags but merely generates a field and receives information.

The claims use the term “determining.” Defendants argue the specification defines this term as “sensing.” The specification states “[a]nti-collision is generally performed by software and hardware of the tag with delays signal transmission whenever the hardware and software of the tag senses transmission by another tag.” ‘563 Patent, col. 5:7–10.

This statement generally describes the anti-collision functionality and does not redefine “determining” to mean “sensing.” Thus, it would be improper to so limit the claims. *See Phillips*, 415 F.3d at 1323.

The Court has construed many terms within the disputed “only when anti-collision hardware and software of each anti-collision, field activated apparatus determines that no other anti-collision, field activated apparatus is transmitting its periodic signal” term. The remaining claim language is clear and understandable to lay jurors. Having resolved the disputes raised by the parties’ constructions, the Court will not construe the disputed term.

CONCLUSION

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. For ease of reference, the Court’s claim interpretations are set forth in a table as Appendix B. The claims with the disputed terms in bold are set forth in Appendix A.

So ORDERED and SIGNED this 11th day of February, 2008.

A handwritten signature in black ink, appearing to read 'Leonard Davis', written over a horizontal line.

**LEONARD DAVIS
UNITED STATES DISTRICT JUDGE**

APPENDIX A

U.S. Pat. No. 6,967,563

1. An inventory control apparatus comprising:
 a computer including:
 a list implemented therein comprising:
 a unique item identifier for each item in an inventory;
 a **unique item code**; and
 an **item status**;
 an **anti-collision, field activated apparatus** affixed to each item in the **inventory** including a programmable memory storing its **unique item code**, a transmitter, **anti-collision** hardware and software and an antenna; and
 an **interrogator/reader** in communication with the computer and including:
 a field generator capable of generating a **field having a range characterized by a radius centered at the generator and a field strength sufficient to activate any field activated apparatus affixed to an item within the range of the generated field**; and a receiver,
 where each **anti-collision, field activated apparatus** affixed to an item of **inventory** within the range of the generated field **periodically transmits a signal including its unique item code only when anti-collision hardware and software of each anti-collision, field activated apparatus determines that no other anti-collision, field activated apparatus is transmitting its periodic signal** and where the **status** of each item whose **field activated apparatus** has transmitted its signal to the receiver of the **interrogator/reader** is set to a first state indicating that the item is inside the range of the generated field, while the **status** of all other items is set to a second state indicating that the all other items are outside of the range of the generated field.

15. A method for inventory control comprising the steps of:
 affixing to each item in an **inventory** a **field activated apparatus** including a programmable memory storing its **unique item code**, a transmitter, **anti-collision** hardware and software and an antenna and, upon activation, capable of transmitting a signal modulated with the **unique item code**;
 generating a **field having a range characterized by a radius centered at a field generator associated with an interrogator/reader and a field strength sufficient to activate any field activated apparatus affixed to any item of the inventory within the range**;
 receiving periodic signals transmitted by each **field activated apparatus** associated with each item within the range of the field **only when anti-collision hardware and software of each field activated apparatus determines that no other anti-collision, field activated apparatus is transmitting its periodic signal**;
 setting an **item status** to a present state in a list implemented on a digital processing unit associated with the **interrogator/reader**, where the list includes at least an unique item identifier for each item in the **inventory**, the **unique code** for the **field activated apparatus** affixed to each item, and the **item status** for each signal corresponding to an item in the **inventory** received in the receiving step; and
 setting the **item status** to an absent state for each item for which no signal was receive in the receiving step.

APPENDIX B

Ref. Nos.	Term or Phrase to be Construed (Claims)	Court's Construction
1	inventory (claims 1, 15)	<i>No construction required</i>
2	interrogator/reader (claims 1, 15)	an interrogator/reader includes a field generator and a receiver, but not a transmitter
3	unique item identifier for each item in an inventory (claims 1, 15)	AGREED – an identifier that identifies only one particular item
4	unique item code (claims 1, 15)	a code that is associated with only one particular tag
5	item status (claims 1, 15)	a data element which indicates whether a particular inventory item is inside or outside of the generated field
6	anti-collision (claims 1, 15)	functionality that operates to avoid collisions with signals transmitted by other field activated apparatuses
7	field activated apparatus (claims 1, 15)	an apparatus that is activated when it is within the range of the field generated by the interrogator/reader
8	a field having a range characterized by a radius centered at the generator and a field strength sufficient to activate any field activated apparatus affixed to an item within the range of the generated field (claim 1) a field having a range characterized by a radius centered at a field generator . . . and a field strength sufficient to activate any field activated apparatus affixed to any item of the inventory within the range (claim 15)	<i>No construction required</i> <i>No construction required</i>
9	periodically transmits (claim 1) transmitting its periodic signal (claims 1, 15) receiving periodic signals transmitted by each field activated apparatus (claim 15)	transmits a signal at intervals transmitting a signal at intervals receiving signals transmitted at intervals by each field activated apparatus
10	only when anti-collision hardware and software of each anti-collision, field activated apparatus determines that no other anti-collision, field activated apparatus is transmitting its periodic signal and where the status of each item whose field activated apparatus has transmitted its signal (claims 1, 15)	<i>No construction required</i>

Ref. Nos.	Term or Phrase to be Construed (Claims)	Court's Construction
11	a unique item identifier for each item in inventory (claims 1, 15)	AGREED – an identifier that identifies only one particular item